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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,097	03/16/2005	Jun Kitakado	038440-0121	5828
23428 7590 05/02/2008 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER AFSHAR, KAMRAN	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 05/02/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,097

Applicant(s)

KITAKADO, JUN

Examiner

KAMRAN AFSHAR

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/15/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-12 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-12, 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

1. Applicant's election without traverse of 1, 3 and 5-12 in the reply filed on 02/15/2008 is acknowledged and status of claims 2, 4 and 13-16 are now being cancelled.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3, 5-12 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's arguments ***with respect to obviousness-type Double Patenting*** filed 02/15/2008 have been fully considered but they are not persuasive.

Claim Rejections – obviousness-type Double Patenting:

Applicant has argued that:

In the Office Action, claims 1, 3 and 5-12 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending patent application 10/779,622. In reply, the M.P.E.P. sets forth the requirements for a double patenting rejection for two copending applications, in which neither one has issued yet, which is the case here. Those requirements specify that a terminal disclaimer needs to be filed in only the later-filed copending application, which corresponds to copending patent application 10/779,622. Accordingly, a terminal disclaimer is not needed in this application (See Page 9).

In response, Examiner recognizes that MPEP sets for:

B. Between Copending Applications—Provisional Rejections

The "provisional" double patenting rejection should continue to be made by the examiner in each application as long as there are conflicting claims in more than one application **unless that "provisional" double patenting rejection is the only rejection remaining in at least one of the applications (emphases added).**

1. Nonstatutory Double Patenting Rejections

If a "provisional" nonstatutory obviousness-type double patenting (ODP) rejection **is the only rejection (which is not the case in this instant)** remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer. If the ODP rejection is the only rejection remaining in the later-filed

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application (**which is not the case in this instant**), while the earlier-filed application is rejectable on other grounds, **a terminal disclaimer must be required in the later-filed application** before the rejection can be withdrawn. Since Applicant has not filed a terminal disclaimer in any of the application.

If "provisional" ODP rejections in two applications are the only rejections remaining in those applications, the examiner should withdraw the ODP rejection in the earlier filed application thereby permitting that application to issue without need of a terminal disclaimer **which is not the case in this instant (emphases added). A terminal disclaimer must be required in the later-filed application before the ODP rejection can be withdrawn and the application permitted to issue which is the case in this instant (emphases added).** (See MPEP 801, under I.

INSTANCES WHERE DOUBLE PATENTING ISSUE CAN BE RAISED, Also see MPEP under two-way Obviousness). Therefore, the previous rejection is maintained.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 5-12, 24-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In accordance with the claimed language of claim 5 "a computer readable medium encoded with a reception level display program for an adaptive array wireless terminal apparatus having a plurality of antennas causing a computer to execute the steps of. There is no clear and precise reference for a computer readable medium encoded in the specification. Further more, the specification defines the program may be installed from the outside (See Page 5, ¶ [0095], Page 12, ¶ [0112] of PGPU US 2006/0009268 A1). Thus, the program for an adaptive array wireless terminal apparatus recited in claim 5 can be interpreted as a signal or carrier wave when it communicates, which does not fall within one of the four statutory classes of 101.

Regarding Claims 6-12 and 24-25 are rejected as they are directly or indirectly depended on the

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rejected claim 29.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1, 3, 5-12, 17-25 are provisionally rejected on the ground of nonstatutory obviousness-

type double patenting as being unpatentable over claims 1-7, 10-14, 17-19, 21-27, and 29-31 of

copending Application No. 10/779,622. Although the conflicting claims are not identical, they are not

patentably distinct from each other because all the claimed limitations recited in the present application

are transparently found in the copending application 10/779,622 with obvious wording variations. Take an

example of comparing claim 1 of pending application and claims 1 of copending application 10/779,622:

Pending Application 10/528097	Co-pending application 10/779,622
<p>1. An adaptive array wireless terminal apparatus having a plurality of antennas, comprising: a determining unit configured to determine reception levels of signals of a plurality of streams received by respective ones of said plurality of antennas; a display unit configured to display said determined reception levels of signals of said plurality of streams; and a reception level adjusting unit configured to be manually operated by a user for adjusting the reception levels of signals of said plurality of streams.</p>	<p>1. An adaptive array radio communication apparatus having a plurality of antennas, comprising: estimation means for estimating a correlation value between signals of a plurality of streams received at respective said plurality of antennas, display means for displaying said estimated correlation value between said signals of said plurality of streams, and antenna correlation adjustment means for causing the correlation value between said signals of said plurality of streams to be altered manually by a user.</p>

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Therefore, the limitations in copending Application No.: 10/779,622 encompassed in claimed limitation of the present invention.

2. Claims 1-7, 10-14, 17-19, 21-27, and 29-31 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 5-12, 17-25 of copending Application No. 10/528097. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the claimed limitations recited in the present application are transparently found in the copending application 10/528097 with obvious wording variations. Take an example of comparing claim 1 of pending application and claims 1 of copending application 10/528097:

Pending Application 10/779,622	Co-pending application 10/528097
1. An <u>adaptive array</u> radio communication apparatus having a plurality of antennas , comprising: estimation means for estimating a correlation value between signals of a plurality of streams received at respective said plurality of antennas , display means for displaying said estimated correlation value between said signals of said plurality of streams , and antenna correlation adjustment means for causing the correlation value between said signals of said plurality of streams to be altered manually by a user .	1. An <u>adaptive array</u> wireless terminal apparatus having a plurality of antennas , comprising: a determining unit configured to determine reception levels of signals of a plurality of streams received by respective ones of said plurality of antennas ; a display unit configured to display said determined reception levels of signals of said plurality of streams ; and a reception level adjusting unit configured to be manually operated by a user for adjusting the reception levels of signals of said plurality of streams.

The claims of the application 10/779,622 encompass the same subject matter except the instant “estimation means for estimating a correlation value between **signals of a plurality of streams received at respective said plurality of antennas**” whereas the copending Application 10/528097 claims are to a more generic “a **determining unit configured to determine reception levels of signals of a plurality of streams received by respective ones of said plurality of antennas**”. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to implement the copending Application 10/779,622 “a **determining unit configured to determine reception levels of signals of a plurality of**

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streams received by respective ones of said plurality of antennas” as a “ a method for enforcing a vehicle code, transmitting a message indicating the status ” because it was notoriously well known to utilize a reception level determination section (or unit or means, etc.) in an adaptive array antenna system to obtain phase difference, and angle difference to adaptively control the directivity of the antenna for better and more reliable communication signal quality.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The instant claims obviously encompass the claimed invention of 10/528097 application and differ only in terminology. To the extent that the instant claims are broaden and therefore generic to the claimed invention of 10/528097 application, in re Goodman, 29 USPQ 2d 2010 CAFC 1993, states that a generic claim cannot be issued without a terminal disclaimer, if a species claim has been previously been claimed in a co-pending application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ozaki et al. (JP Patent Number 09-205390).

With respect to claim 1, Ozaki teaches an adaptive array wireless terminal apparatus having a plurality of Antennas (See Ozaki e.g. 1 and 2 in figure 1), comprising: a determining unit configured to determine reception levels of signals of a plurality of streams received by respective ones of the plurality of antennas (See Ozaki e.g. 8 of Fig. 1, ¶ [0009]); a display unit configured to display the determined reception levels of signals of said plurality of streams (See Ozaki e.g. displaying report is interpreted to be displaying correlation values, 12 of Fig. 1, ¶ [0009]); and a reception level adjusting unit (See Ozaki

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e.g. 10 of Fig. 1) configured to be manually operated by a user for adjusting the reception levels of signals of the plurality of streams (See Ozaki e.g. Examiner takes: moving antennas according to spacing data is to be the adjustment means altered manually by a user) (See Ozaki e.g. ¶ [0009]).

With respect to claim 3, Ozaki teaches a method of displaying a reception level in an adaptive array wireless terminal apparatus having a plurality of antennas (See Ozaki e.g. 1 and 2 in figure 1) comprising the steps of: determining reception levels of signals of a plurality of streams received by respective ones of the plurality of antennas (See Ozaki e.g. 8 of Fig. 1, ¶ [0009]); and displaying said determined reception levels of signals of the plurality of streams (See Ozaki e.g. displaying report is interpreted to be displaying magnitude level of the correlation values, ¶ [0009]).

Regarding claim 18, it is obvious that at least one of the plurality of antennas is a movable antenna and at least another of the plurality of antennas is a non-movable antenna, and wherein the reception level adjusting unit is configured to adjust the reception levels of signals of the plurality of streams by adjusting a position of the movable antenna (See Ozaki e.g. user controls movement of the receiving antenna spacing, ¶ [0009]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5-8, 11-12, 21, 23, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozaki et al. (JP Patent Number 09-205390) in view of Billerbeck (U.S. Pub. No.: 2003/0060218 A1).

With respect to claim 5, Ozaki teaches a reception level display in an adaptive array wireless terminal apparatus having a plurality of antennas (See Ozaki e.g. 1 and 2 in figure 1) comprising the steps of: determining reception levels of signals of a plurality of streams received by respective ones of the plurality of antennas (See Ozaki e.g. 8 of Fig. 1, ¶ [0009]); and displaying said determined reception levels of signals of the plurality of streams (See Ozaki e.g. displaying report is interpreted to be

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displaying magnitude level of the correlation values, ¶ [0009]). However, Ozaki does not teach a computer readable medium encoded with a reception level display program for an adaptive array wireless terminal apparatus having a plurality of antennas, causing a computer to execute the steps. In an analogous field of endeavor, Billerbeck teaches the concept of a computer readable medium encoded with a reception level display program for an adaptive array wireless terminal apparatus having a plurality of antennas (See Billerbeck e.g. computer program, antenna array, Page 3, ¶ [0022], software program, measuring signal level or value of first antenna and second or next antenna, Page 3, [0025]). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Billerbeck to Ozaki to provide an automatic tuning system wherein an application program measures antenna performance and selects the most productive antenna based on the quality of the signal in addition to manually adjustment of the receiver for optimum reception in a wireless apparatus as suggested (See Billerbeck e.g. Page 3, ¶ [0027]).

Regarding claim 6, Ozaki teaches a numerical value indicating a reception level of each of the signals of said plurality of streams is displayed (See Ozaki e.g. correlation count section and display section are interpreted to display correlation value as a numeric value, ¶ [0009]).

Regarding claim 7, Ozaki teaches a difference value between each of the reception levels of the signals of the plurality of streams is displayed (See Ozaki e.g. correlation count section and display section are interpreted to display correlation value as a difference value, ¶ [0009]).

Regarding claim 8, Ozaki teaches a degree of magnitude of a difference value between each of the reception levels of the signals of the plurality of streams is displayed (See Ozaki e.g. correlation count section and display section are interpreted to display correlation value as a degree of magnitude of a difference value, ¶ [0009]).

Regarding claim 11, it is obvious that automatically activating the determining (See Billerbeck e.g. automatic, Page 3, ¶ [0027]) step and the display step (See Ozaki e.g. displaying report is interpreted to be displaying correlation values, 12 of Fig. 1, ¶ [0009]).

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Regarding claim 12, it is obvious that activating the determining step and the display (See Ozaki e.g. displaying report is interpreted to be displaying correlation values, 12 of Fig. 1, ¶ [0009]) step in response to a user instruction (See Billerbeck e.g. manually, Page 3, ¶ [0027]).

Regarding claims 21, 23, 25, Billerbeck teaches determines the reception levels of signals of a plurality of streams received by respective ones of said plurality of antennas, prior to any adaptive array processing being performed on the signals of the plurality of streams (See Billerbeck e.g. determines measuring or received signal from the first antenna and second or next antenna, Page 3, ¶ [0025]).

Allowable Subject Matter

7. Upon filing a suitable Terminal Disclaimer and proper overcome of the ***Double Patenting rejection*** as discussed above Claims 17 would be allowed.

The following is an examiner's statement of reasons for allowance: 17.

Regarding claim 17, the prior art of record fails to disclose singly or in combination or render obvious that wherein the displaying step comprises: turning on a light emitting unit on a display without any flickering when differences between the determined reception levels of signals of the plurality of streams are all within a first difference value; turning on the light emitting unit on the display with a flickering rate greater than zero but less than a predetermined flickering rate, when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the first difference value but less than a second difference value that is greater than the first difference value; and turning on the light emitting unit on the display with a flickering rate greater than the predetermined flickering rate, when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the second difference value.

8. Claims 9-10, 19-20, 22 and 24 are objected to as being dependent upon a rejected base claim, upon filing a suitable Terminal Disclaimer and proper overcome of the ***Double Patenting rejection*** and proper overcoming of the 101 rejection discussed above but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Regarding claim 9, the prior art of record fails to disclose singly or in combination or render obvious that in the display step, any of said numerical value indicative of the reception level of each of the signals of the plurality of streams, the difference value between each of the reception levels and the degree of magnitude of the difference value is selectively displayed as display contents; the program causing the computer to further execute the step of determining the contents to be displayed in the display step, in accordance with prior designation by a user.

Regarding claim 10, the prior art of record fails to disclose singly or in combination or render obvious that in the display step, any of the numerical value indicative of the reception level of each of the signals of the plurality of streams, the difference value between each of the reception levels and the degree of magnitude of the difference value is selectively displayed as display contents; the program causing the computer to further execute the step of periodically and successively switching the display contents to be displayed in said display step.

Regarding claim 19, the prior art of record fails to disclose singly or in combination or render obvious that the displaying unit comprises: a first light emitting unit outputting a first color; a second light emitting unit outputting a second color different from the first color; and a third light emitting unit outputting a third color different from the first and second colors; and a control unit configured to: turn on the first light emitting unit when differences between the determined reception levels of signals of all the plurality of streams are less than a first predetermined difference value; turn on the second light emitting unit when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the first predetermined difference value but less than a second predetermined difference value that is greater than the first predetermined difference value; and turn on the third light emitting unit when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the second predetermined difference value.

Regarding claim 20, the prior art of record fails to disclose singly or in combination or render obvious that the displaying unit comprises: a light emitting unit; and a control unit configured to: turn on the light emitting unit with no flickering when differences between the determined reception levels of signals of the plurality of streams are all less than a first predetermined difference value; turn on the light

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emitting unit with a flickering rate greater than zero and less than a first predetermined flickering rate when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the first predetermined difference value but less than a second predetermined difference value that is greater than the first predetermined difference value, wherein the first predetermined flickering rate is greater than zero; and turn on the light emitting unit with a flickering rate greater than the first predetermined flickering rate when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the second predetermined difference value.

Regarding claim 22, the prior art of record fails to disclose singly or in combination or render obvious that the display step comprises: turning on a first light emitting unit on a display when differences between the determined reception levels of signals of the plurality of streams are all within a first difference value; turning on a second light emitting unit on the display, the second light emitting unit displaying a different color than the first light emitting unit, when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the first difference value but less than a second difference value that is greater than the first difference value; and turning on a third light emitting unit on the display, the third light emitting unit displaying a different color than the first and second first light emitting units, when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the second difference value.

Regarding claim 24, the prior art of record fails to disclose singly or in combination or render obvious that the display step comprises: turning on a first light emitting unit on a display when differences between the determined reception levels of signals of the plurality of streams are all less than a first predetermined difference value; turning on a second light emitting unit on the display, the second light emitting unit displaying a different color than the first light emitting unit, when the difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the first predetermined difference value but less than a second predetermined difference value that is greater than the first predetermined difference value; and turning on a third light emitting unit on the display, the third light emitting unit displaying a different color than the first and second first light emitting units, when the

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difference between the determined reception levels of signals of at least two of the plurality of streams is greater than the second predetermined difference value.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a) Doi (U.S. 7,058,418 B2).
 - b) Kitakado (U.S. Pub. No.: 2008/0085735 A1).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (571) 272-7796. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, **Trost, William** can be reached @ (571) 272-7872. The fax number for the organization where this application or proceeding is assigned is **571-273-8300** for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kamran Afshar 571-272-7796/

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